

# **Producing Smooth Motion Compensated Frames by Combining Multiple Interpolation Results**

## **ABSTRACT OF THE DISCLOSURE**

[0026] An interpolation manager constructs multiple motion compensated interpolated frames between two existing frames, and then fuses the multiple interpolated frames into a single output frame. The interpolation manager constructs each of the multiple interpolated frames between the existing frames by selecting a pixel set from each existing frame, generating associated meshes, estimating flow motions in each direction, generating corresponding motion compensated meshes, computing warped images corresponding to each of the existing frames and combining the warped images into an interpolated frame. For each constructed interpolated frame, the interpolation manager uses different classification criteria to select the pixel sets, such that the pixel sets selected for each of the motion compensated interpolated frames vary, and hence the interpolated frames vary as well. The interpolation manager fuses the multiple interpolated frames into a single, output interpolated frame.

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